till he left the city to spend the summer in the country. During the whole month of August the brace was left off entirely, and without any apparent detriment. It was thought, however, a safe precaution to resume its use again, and have it worn two days in the week only, from rising in the morning till dinner-time.

November 15, 1871. The patient was examined to-day, and the favourable condition of the chin and neck already noticed was found to be fully maintained, as well in regard to the freedom of motion of the head and neck as to the appearance of the parts.

No. 46 West 29th St., November, 1871.

Art. III.—*Strychnia as a Retinal and Optic Nerve Stimulus.* By Julian J. Chisolm, M.D., Clinical Professor of Eye and Ear Diseases in the University of Maryland, Surgeon to the Baltimore Eye and Ear Institute, etc. etc. etc.

Some months since, Prof. Nagel, of Tubingen, Germany, communicated to the *Centralblatt* an interesting paper on strychnia as a remedial agent in amaurosis, in which he made mention of marvellous effects from the hypodermic use of the alkaloid. He reported cases of both functional and organic diseases of the optic nerve and retina in which relief was prompt, decided, and permanent. In many of his cases improvement in vision appeared to follow upon the very first dose of the remedy; and in a few cases of functional derangement the complete restoration of sight was established after three or four doses of medicine hypodermically administered, making in all only a small fraction of a grain of the sulphate of strychnia.

I was prepared for these striking results in functional disturbances of the optic nerve, commonly called amblyopia, as I had often obtained speedy relief in such cases from the internal administration of strychnia. But organic degeneration of the optic nerve, known as white atrophy, had been so long considered a hopelessly blind state, that, upon reading of the wonderful cures effected by Prof. Nagel through the instrumentality of the hypodermic use of strychnia, I was disposed at first to classify them as among the questionable so-called medical facts, and, before I had experience with the remedy in organic diseases of the retina and optic nerve, considered such reported cases as an evidence of the little value to be attached to marvellous cures of diseases heretofore believed to be incurable. From previous observation it appeared to me nearly as possible to metamorphose old age into youth as to give sight in cases of nerve atrophy.

With the internal use of strychnia as a general nerve stimulus I had long been familiar, and had used it for many years, with most excellent effect, in relieving cases of functional derangement of vision, as seen in night-blindness. Only recently I had been quite carried away by the wonderfully prompt results secured by the hypodermic use of this alkaloid in the treatment of a very protracted case of hemeralopia (night-blindness) of seven months' duration. Notwithstanding a long and carefully instituted treatment by other physicians, the patient remained so absolutely blind after nightfall that he could not detect even a gaslight in full blaze. After a few doses of the sulphate of strychnia injected under the skin of the arm, night-vision was so perfectly restored that at the expiration of ten days the patient could read a newspaper by the gas, when a few nights previously he could not see even the light itself. Three cases of night-blindness of varied duration having presented themselves simultaneously for treatment, and having secured speedy and permanent relief by this hypodermic use of strychnia, I was induced to try the same remedy upon a patient with extensive disease of the choroid and retina, who about the same time presented himself again for treatment, although he had been dismissed some months previously as hopelessly incurable.

The case was that of Capt. T., of the Merchant Service, aged 52. He had suffered from choroido-iritis two years since, for which the operation of iridectomy had been performed in each eye at that time, but without benefit. When he was first brought to my observation, one year after he had been operated upon, I found that he had to be led about, notwithstanding that the enlarged pupils admitted a flood of light to his defective retina. An ophthalmoscopic examination at that time exhibited a vitreous chamber so cloudy that in the right eye no fundus could be detected, and in the left eye the outline of the optic disk could be scarcely defined. Floating muscæ could be seen in numbers in the right vitreous chamber. During a course of treatment extending over some months, I used with him at different times iodide of potassium, bichloride of mercury, iron, cod-liver oil, and strychnia internally, with blisters and setons for counter-irritation. These had the effect of clearing up the vitreous media, but brought back no sight. The case was then dismissed as incurable, as treatment had proved useless. Early in September, after six months' absence, the patient again was brought to me for treatment. Upon examination with the ophthalmoscope, the media being now clear, the choroid and retina exhibited extensive patches of atrophy scattered about the fundus of the eye. The left optic disk looked full, and was of good colour, but with this, his best eye, he could only distinguish light from darkness. He could also discern, as if through a very heavy fog, the outline of large objects in his immediate proximity, when placed in a strong light. He could see the fingers of a hand in motion when placed near his face, but could not count them. The clearing up of the vitreous chamber, and the exposure of the retina, had brought with them no light, and he was therefore dependent upon others to lead him about.

As the experiences of Prof. Nagel were fresh in my mind, and as the patient was very urgent that I should try any means which offered the least prospect, however remote, of giving him sight, I concluded to put him under the hypodermic use of strychnia, more to satisfy him and get rid of his importunities than for any good results which I could look forward to.

The treatment was commenced before the medical class at the Baltimore Eye and Ear Infirmary, on the 14th of September. One-fortieth of a grain of the sulphate of strychnia in ten minims of water was ordered to be injected under the skin of the arm night and morning. Its effects were immediate. A few minutes after the very first injection, the enveloping fog appeared to him to become less dense, and the surrounding atmosphere to lighten up. Hope revived within him as each successive injection appeared to dissipate more and more the thick mist in which he had been so long groping. After three days' use of the remedy, the patient could make out the furniture of the ward with sufficient clearness to guide himself about without feeling; and on the fourth day of treatment, without help, he succeeded at mid-day in walking alone and safely through the thoroughfares of the city to the home of his family, a mile from the Infirmary.

Six weeks have now elapsed since the hypodermic use of strychnia was commenced, the patient having averaged during that time about three injections in forty-eight hours. The improvement in vision has been steadily progressing from the first day of treatment. He can now make out the large type heading of the daily papers, and every day walks alone through the crowded streets of the city with safety and with confidence, having in this short space of time regained so much useful vision as to make him independent of all aid in moving about. He has used up to the present time nearly two grains of strychnia, and the effects have been as wonderful as in any of the cases related by Prof. Nagel.

In testing the use of strychnia in other cases of optic nerve atrophy, the effects seem nearly instantaneous upon the injection of the fluid under the skin. In nearly every instance the patient experienced the brightening of the light in less than a half minute. In one instance, in which one-fortieth of a grain in solution was accidentally thrown into a vein, the sensations of light and a feeling of muscular twitchings were apparently simultaneous with the emptying of the syringe. Prof. Nagel injected, in his cases, the temple, as near the seat of the eye disease. As the strychnia had first to be absorbed, and could only act upon the nerve centres through the circulation, I could see no advantage in this location over the arm, and hence used this distant but more convenient portion of the body. I commence usually with the one-sixtieth of a grain, which I gradually increase to one-thirtieth, twice a day, in no case exceeding this last amount. This treatment has now been tried in many cases, doing harm to none, and benefiting all more or less. In functional disturbances the relief is very prompt; in organic troubles of the retina and optic nerve results show themselves more slowly. So far, my experience in the hypodermic use of strychnia enables me to indorse the statement of the wonderful effects secured by Prof. Nagel, of Tubingen, and I can recommend to the profession strychnia, hypodermically used, as a most valuable remedy in many cases of nerve-blindness.

Art. IV.—*Amputation at the Knee-Joint.* By G. M. Staples, A.M., M.D., Dubuque, Iowa.

The admirable and exhaustive article of Dr. Brinton on amputations at the knee-joint, published in the No. of this Journal for April, 1868, and the paper of Dr. Markoe in the *New York Medical Journal* for March of the same year, have done much to remove the prejudice against this operation which heretofore prevailed in the minds of American surgeons. But conversions come tardily, in science as in religion, and it is not improbable that, among those who have failed to give it a fair trial, some at least may still look upon the operation with disfavour and suspicion. In this practical age, facts and results are of infinitely more value than speculations; and it is fair to assume that our profession has a claim on its members for their experience, though limited, upon those points not yet fully accepted.

In the following cases, in which the results were all that could be desired, attention is called to a few facts which differ somewhat from the observations of some others who have treated this subject.

Case I.—I was consulted, May 10th, 1869, by N. L. A., 41 years of age, a tall, sallow man, of bilious temperament. When nine years old, he had fractured left leg and skull. Fracture of leg appeared to unite well, but, for several years after, necrosed bone was discharged through fistulous openings. In June, 1868, patient was called up in the night, and, walking hurriedly across the floor, struck the same limb midway between ankle and knee against a chair. No serious inconvenience followed for a month, when severe periosteal inflammation ensued, with fistulous openings along the leg.

The patient, when I saw him, was greatly reduced; appetite poor; pulse weak, small, and frequent; leg permanently flexed at right angles to thigh, and a large number of openings along limb, from just below head of tibia to a short distance above ankle, with thin, ichorous discharge, and œdema of foot. During the nine or ten months that the discharge